1 Interview Summaries

1.1 Maine Department of Public Safety

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Interviewer   AGI / Michael Terner (mgt@appgeo.com)
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URL: http://www.state.me.us/dps/

1.1.1 Agency Overview

The Department of Public Safety (DPS) serves the people by protecting their lives, rights, and properties. This is accomplished through criminal justice, law enforcement, fire safety, and emergency response services. The DPS is organized into nine bureaus to address different aspects of this mission.   At least three of these bureaus – State Police, Enhanced 911, and Highway Safety – are actively involved with GIS. At this point in time, the E911 project is by far the largest GIS initiative within DPS, however, there are numerous additional opportunities that the agency is currently planning for.

1.1.2 GIS Initiatives

1.1.2.1 Overview of GIS Utilization

In 1996 the DPS embarked upon an ambitious program to create enhanced 911 service across the State of Maine. Enhanced 911 service allows an E911 dispatcher to *automatically* have the address of an incoming call available at the dispatching station. In rural states such as Maine creating a comprehensive listing of all the addresses in the state – prerequisite for universal E911 – can be a challenge. Many smaller communities have not instituted addressing at all, much less developing a database that indicates what the addressing is.

Six years later, Maine is now nearing the completion of what is expected to be an 8-year E911 addressing project. The final product is a GIS street centerline data layer that includes the street name and address range for every road segment in the state. As of October 2001, 40 towns were still in process, and only 100 towns had not yet been addressed. It is estimated that approximately 85% of the population is now covered by E911. The DPS is completing this work through a service level agreement with MeGIS. A key element of the program will be ongoing work to keep the E911 address database up to date as development occurs and as new addresses are added.

This project has put together an ambitious coalition of state resources and local volunteers that do the actual addressing in the field. This program provides a nice

working model for further joint state and municipal government efforts for building valuable GIS data infrastructure.

1.1.2.2   GIS Operating Environment and Infrastructure

Most GIS work is accomplished through MeGIS under an SLA. There is not yet a significant internal GIS operating environment at DPS.

1.1.2.3   GIS Data Resources and Requirements

1.1.2.3.1   Spatial Data

Existing/under development data sets:
- E911 street centerline database, with attributes for street name and address ranges
- Emergency service zones (showing the PSAP responsible for each call)

Basemap features:
The E911 project uses a variety of existing sources as a base map, these include:
- MDOT road centerline data
- USGS orthophoto quadrangles (DOQQ)
- USGS-based quadrangle vector data sets (e.g. DLG road centerlines, et al)
- US Census TIGER files

Currently unavailable but desired data sets include:
- Combination of DOT road centerline attributes (e.g. condition of roads) with E911 address attributes
- Geocoded accident locations
- Geocoded crime/incident locations
- Geocoded locations of registered sex offender residences
- New development and "sprawl" indicators

1.1.2.3.2   Attribute Data

- DPS in engaged in a project to update and modernize their "records management" system. Ultimately, this database will include the crime/incident data sets that could be geocoded to create point locations. DPS indicated that the record management database will strictly be built on a day-forward basis. Hence, there will not be any effort to populate that system with information on historic crimes/incidents.

1.1.2.3.3   Data Issues

- Both DPS and DOT are very strongly interested in creating a strong, single street centerline database for the entire state. This resource would have comprehensive and accurate spatial representations of all streets in the state as well as the combined attributes from both the E911 and DOT road databases.

1.1.2.4 GIS Applications and Application Requirements

- The main existing application is deployment of the E911 system. This includes tools for creating and maintaining the E911 street address database, as well as additional tools for making the address data available to dispatchers.

Planned future GIS activity and applications:

The DPS and its bureaus have many plans for future deployment of GIS technology. While some of these initiatives are at a nascent stage, it is anticipated that the completion of the records management system upgrade as well as the winding down of the data automation phase of E911 will lead to a greater focus on these types of applications:

- **Cartographic Support of Dispatching:** The DPS would like to expand the E911 program so that dispatchers are given access to both the address generated by the E911 hardware as well as cartographic depictions of where call emanate from. The DPS has referred to this as "map assisted dispatching". In addition, cartographic displays can help in "post-dispatching" activities, such as assessing where a perpetrator may have gone.

- **Mobile E911:** Once the conventional E911 system is completed, there are plans to add capabilities to handle mobile phone generated 911 calls. Based on current nationwide planning, mobile phone carriers will be able to capture and broadcast estimated locations from all callers. These locations could be captured and displayed on a map.

- **Crime Analysis & Personnel Deployment:** The State Police, particularly troop commanders, would like to look at historic trends in crime and incidents to determine appropriate strategies for response. In addition, the historic distribution of incidents can be a key factor in assigning personnel resources (i.e. the public safety personnel should be concentrated to where the most activity is generally found). The State Police have actively investigated the CrimeView software program – an add-on to the ESRI® ArcView™ environment – as a means for providing this capability.

- **Understanding Sprawl & Force Configuration:** The State Police are very actively interested in understanding new development and sprawl in Maine. Many rural and unincorporated jurisdictions in Maine do not have their own police forces[1] and in those locales the State Police and County Sheriff's provide public safety services. It is critical for the State Police to understand where development is occurring because that can be a key indicator for a future need for support. Simply put, with increased development there are now public safety requirements in places that have not historically had them. A simple overlay application showing jurisdictions with now police forces and the location of new development would be a key force configuration tool for the State Police.

- **More Rapid Map Deployment:** The DPS requires an ability to more rapidly get maps to its collaborators and interested parties. Right now the DPS relies on third

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[1] The State Police estimated that jurisdictions with less than 3,000-4,000 people generally do not have their own local police and fire forces.

parties to provide maps, and this system is not providing as rapid a turn-around as is necessary. As such, the DPS most likely requires its own, in-house map capability that could access all state data sets (including MeGIS data).

- **Sex Offender Registry:** New laws, such as Meagan's Law, require convicted sex offenders to register with the state and make their addresses available to the public. GIS can be a perfect tool for mapping these locations and making them available to the public. Many entities have built "sex offender proximity tools" that allow someone to type in their own address and see which sex offenders are nearby. The State Police described an ongoing initiative to investigate building this type of database and tool, however, further activity is awaiting a ruling from the Attorney General pertaining to privacy issues.

1.1.3 Other Relevant Issues

- The DPS has viewed its collaboration with MeGIS on the E911 project quite positively. The DPS indicated strong support for further, centralized state efforts that could help new state departments become further involved with GIS. In addition, there was strong support for assisting the municipalities in coming up the GIS learning curve.

1.1.4 Major Benefits and Cost Justification

As described above, the major activity within DPS has been the E911 project. This project remains incomplete, with two additional years of the anticipated schedule yet to run. While quantitative benefits have yet to be tallied, the following benefits of the program were described:

- **Access to E911:** Recognition by municipalities that E911 dispatching helps save lives. Without participation in the street address mapping project, this type of dispatching is impossible.

- **Improved Road Marking:** Part of the E911 program includes adequately marking roads with signage and this provides a tangible benefit to residents. This is particularly well received in rural areas.

- **Data are Available for Other Applications:** The final street centerline database will be valuable for other applications outside of the public safety arena. Notably, this includes areas such as school bus routing.